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<b>Complete if Known</b>			
Application Number		10/574,055	
Filing Date		April 6, 2007	
First Named Inventor		Robert S. Puskas	
Art Unit		2857	
Examiner Name		Unassigned	
Sheet	1	Of	8
Attorney Docket Number			
31469-708.831			

U.S. PATENT DOCUMENTS

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
1.	US 2002/0030812		03/14/2002	Ortyn et al.
2.	US 2006/0003333		01/05/2006	Puskas
3.	US 2002/0167665		11/14/2002	Yeung et al.
4.	US 2003/0029995		02/13/2003	Mullins et al.
5.	US 2005/0164205		07/28/2005	Puskas
6.	US 2006/0078998		04/13/2006	Puskas
7.	US 3,826,364		07/30/1974	Bonner, et al.
8.	US 4,071,298		01/31/1978	Falconer
9.	US 4,172,227		10/23/1979	Tyler et al.
10.	US 4,243,318		01/06/1981	Stohr
11.	US 4,251,733		02/17/1981	Hirleman, Jr.
12.	US 4,452,773		06/05/1984	Molday
13.	US 4,727,020		02/23/1988	Recktenwald
14.	US 4,768,879		09/06/1988	McLachlan et al.
15.	US 4,770,183		09/13/1988	Groman, et al.
16.	US 4,793,705		12/27/1988	Shera
17.	US 4,927,265		05/22/1990	Brownlee
18.	US 4,979,824		12/25/1990	Mathies et al.
19.	US 5,002,389		03/26/1991	Benser
20.	US 5,041,733		08/20/1991	Noguchi et al.
21.	US 5,108,179		04/28/1992	Myers
22.	US 5,138,170		08/11/1992	Noguchi et al.
23.	US 5,209,834		05/11/1993	Shera
24.	US 5,269,937		12/14/1993	Dollinger et al.

Examiner etc. /Kara Geisel/ (08/18/2009) Date

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25.	US 5,385,707		03/31/1995	Miltenyi, et al.	
26.	US 5,480,614		01/02/1996	Kanazohri	
27.	US 5,528,045		06/18/1996	Hoffman, et al.	
28.	US 5,540,494		07/30/1996	Purvis Jr. et al.	
29.	US 5,543,838		08/06/1996	Hosier et al.	
30.	US 5,571,410		11/05/1996	Swedberg et al.	
31.	US 5,603,351		02/18/1997	Cherukuri et al.	
32.	US 5,605,662		02/25/1997	Heller et al.	
33.	US 5,633,503		05/27/1997	Kosaka	
34.	US 5,645,702		07/08/1997	Witt et al.	
35.	US 5,653,859		08/05/1997	Parton et al.	
36.	US 5,653,939		08/05/1997	Hollis et al.	
37.	US 5,658,413		08/19/1997	Kaltenbach et al.	
38.	US 5,681,751		10/28/1997	Begg et al.	
39.	US 5,682,038		10/28/1997	Hoffman	
40.	US 5,716,825		02/10/1998	Hancock et al.	
41.	US 5,746,901		05/05/1998	Balch et al.	
42.	US 5,755,942		05/26/1998	Zanzucchi et al.	
43.	US 5,770,029		06/23/1998	Nelson et al.	
44.	US 5,793,485		08/11/1998	Gourley	
45.	US 5,795,158		08/18/1998	Warinner	
46.	US 5,798,222		08/25/1998	Goix	
47.	US 5,807,677		09/15/1998	Eigen et al.	
48.	US 5,858,195		01/12/1999	Ramsey	

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				Art Unit	2857
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Sheet	3	Of	8	Attorney Docket Number	31469-708.831

**U.S. PATENT DOCUMENTS**

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49.	US 5,863,801		01/26/1999	Southgate et al.	
50.	US 5,949,532		09/07/1999	Schrof et al.	
51.	US 5,955,028		09/21/1999	Chow	
52.	US 5,989,402		11/23/1999	Chow et al.	
53.	US 5,999,250		12/07/1999	Hairston et al.	
54.	US 6,041,515		03/28/2000	Ally et al.	
55.	US 6,049,380		04/11/2000	Goodwin et al.	
56.	US 6,071,478		06/06/2000	Chow	
57.	US 6,140,048		10/31/2000	Muller et al.	
58.	US 6,177,277		01/23/2001	Soini	
59.	US 6,211,955		04/03/2001	Basiji et al.	
60.	US 6,249,341		06/19/2001	Basiji et al.	
61.	US 6,280,960		08/28/2001	Carr	
62.	US 6,309,886		10/30/2001	Ambrose et al.	
63.	US 6,355,420		03/12/2002	Chan	
64.	US 6,386,219		05/14/2002	Barth et al.	
65.	US 6,388,746		05/14/2002	Eriksson et al.	
66.	US 6,403,947		06/11/2002	Hoyt et al.	
67.	US 6,473,176		10/29/2002	Basiji et al.	
68.	US 6,495,104		12/17/2002	Unno et al.	
69.	US 6,506,609		01/14/2003	Wada et al.	
70.	US 6,532,067		03/1/2003	Chang et al.	
71.	US 6,537,437		03/25/2003	Galambos et al.	
72.	US 6,582,903		06/24/2003	Rigler et al.	

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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
73.	US 6,599,436		07/29/2003	Matzke et al.	
74.	US 6,608,680		08/19/2003	Basiji et al.	
75.	US 6,689,323		02/10/2004	Fisher et al.	
76.	US 6,783,992		08/31/2004	Robotti et al.	
77.	US 6,802,342		10/12/2004	Fernandes et al.	
78.	US 6,811,668		11/02/2004	Berndt et al.	
79.	US 6,816,257		11/09/2004	Goix	

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
80.	DE 3720844		01/05/1989	Miltényi, et al.	
81.	WO 90/10876 A1		09/20/1990	Adrian, et al.	
82.	WO 99/55461 A1		11/04/1999	Borrelli, et al.	

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
83.	AMBROSE, et al. Single molecule fluorescence spectroscopy at ambient temperature. Chemical Reviews. 1999; 99(10): 2929-56.				
84.	ANAZAWA, et al. Electrophoretic quantitation of nucleic acids without amplification by single molecule imaging. Anal. Chem. 2002; 74(19): 5033-38.				
85.	BECKER, et al. ThreC-dimensional photogrammetric particle-tracking velocimetry. Preparing for the Future. 1995; 5(3). Available at <a href="http://esapub.esrin.esa.it/pf/pfsv5n3/beckv5n3.htm">http://esapub.esrin.esa.it/pf/pfsv5n3/beckv5n3.htm</a> (7 pages).				

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Sheet	5	Of	8
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**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>a</sup>
	86.	BIESCHKE, et al., Ultrasensitive detection of pathological prion protein aggregates by dual-color scanning for intensely fluorescent targets. Proc Natl Acad Sci USA. 2000; 97(10): 5468-5473.	
	87.	BOUCHON, et al. Cutting edge: inflammatory responses can be triggered by TREM-1, a novel receptor expressed on neutrophils and monocytes. The Journal of Immunology. 2000; 164(10): 4991-1995.	
	88.	BRINKMEIER, et al. Two-beam cross-correlation: a method to characterize transport phenomena in micrometer-sized structures. Anal. Chem. 1999; 71(3): 609-616.	
	89.	CASTRO, et al. Fluorescence detection and size measurement of single DNA molecules. Anal. Chem. 1993; 65(7): 849-852.	
	90.	CASTRO, et al. Single molecule detection: applications to ultrasensitive biochemical analysis. Applied Optics. 1995; 34(18): 3218-3222.	
	91.	CASTRO, et al. Single-molecule detection of specific nucleic acid sequences in unamplified genomic DNA. Anal. Chem. 1997; 69(19): 3915-3920.	
	92.	CASTRO, et al. Single-molecule electrophoresis. Anal. Chem. 1995; 67(18):3181-3186.	
	93.	CASTRO, et al. Ultrasensitive, direct detection of a specific DNA sequence of <i>Bacillus antracis</i> in solution. The Analyst. 2000; 125: 9-11.	
	94.	CHEN, et al. Single-molecule detection in capillary electrophoresis: molecular shot noise as a fundamental limit to chemical analysis. Anal. Chem. 1996; 68(4): 690-696.	
	95.	COHEN, et al. Rapid separation and purification of oligonucleotides by high-performance capillary gel electrophoresis. Proc Natl Acad Sci USA. 1988; 85(24): 9660-9663.	
	96.	COLONNA, M. TREMS in the immune system and beyond. Nature Reviews: Immunology. 2003; 3(6): 445-453.	
	97.	CSIRO Australia. Image motion, tracking and registration. Available at <a href="http://www.cmis.csiro.au/IAP/Motion/">http://www.cmis.csiro.au/IAP/Motion/</a> no date	

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	98.	DOVICH, et al. Laser-induced fluorescence of flowing samples as an approach to single-molecule detection in liquids. <i>Anal. Chem.</i> 1984; 56(3): 348-354.	
	99.	EFFENHAUSER, et al. Integrated capillary electrophoresis on flexible silicone microdevices: analysis of DNA restriction fragments and detection of single DNA molecules on microchips. <i>Anal. Chem.</i> 1997; 69(17): 3451-3457.	
	100.	ETZIONI, et al. The case for early detection. <i>Nature Reviews: Cancer.</i> 2003; 3(4): 243-252.	
	101.	FISTER, et al. Counting single chromophore molecules for ultrasensitive analysis and separations on microchip devices. <i>Anal. Chem.</i> 1998; 70(3): 431-437.	
	102.	GIBOT, et al. Plasma level of a triggering receptor expressed on myeloid cells-1: its diagnostic accuracy in patients with suspected sepsis. <i>Annals of Internal Medicine.</i> 2004; 141(1): 9-15.	
	103.	GIBOT, et al. Soluble triggering receptor expressed on myeloid cells and the diagnosis of pneumonia. <i>The New England Journal of Medicine.</i> 2004; 350(5): 451-458.	
	104.	Glenn Research Center, NASA. Particle Imaging Velocimetry. Available at <a href="http://www.grc.nasa.gov/WWW/Optimstr/piv/background.htm">http://www.grc.nasa.gov/WWW/Optimstr/piv/background.htm</a> and associated web pages. <b>no date</b>	
	105.	GOLDE, T. Alzheimer disease therapy: can the amyloid cascade be halted? <i>The Journal of Clinical Investigation.</i> 2003; 11(1): 11-18.	
	106.	GUENARD, et al. Two-channel sequential single-molecule measurement. <i>Anal. Chem.</i> 1997; 69(13): 2426-2433.	
	107.	HAAB, et al. Single molecule fluorescence burst detection of DNA fragments separated by capillary electrophoresis. <i>Anal Chem.</i> 1995; 67(18): 3253-3260.	
	108.	HAAB, et al. Single-molecule detection of DNA separations in microfabricated capillary electrophoresis chips employing focused molecular streams. <i>Anal Chem.</i> 1999; 71(22): 5137-5145.	
	109.	HAUGLAND, R. P., Molecular Probes Handbook of Fluorescent Probes and Research Product, Ninth Edition, 2002, Molecular Probes, Inc.	

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				First Named Inventor	Robert S. Puskas
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				Examiner Name	Unassigned
Sheet	7	Of	8	Attorney Docket Number	31469-708.831

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. <sup>3</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
	110.	KELLER, et al. Analytical applications of single-molecule detection. <i>Analytical Chemistry</i> . 2002; 74(11): 317A-324A.			
	111.	LECAPTAIN, et al. Two-beam fluorescence cross-correlation spectroscopy in an electrophoretic mobility shift assay. <i>Anal Chem</i> . 2002; 74(5): 1171-1176.			
	112.	LI, et al. Ultrasonic coincidence fluorescence detection of single DNA molecules. <i>Anal Chem</i> . 2003; 75(7): 1664-1670.			
	113.	LOSCHER, et al. Counting of single protein molecules at interfaces and application of this technique in early-stage diagnosis. <i>Anal Chem</i> . 1998; 70(15): 3202-5.			
	114.	LUCEY, et al. Type I and type 2 cytokine dysregulation in human infectious, neoplastic, and inflammatory diseases. <i>Clinical Biology Reviews</i> . 1996; 9(4): 532-562.			
	115.	MA, et al. High-Throughput Single-Molecule Spectroscopy in Free Solution. <i>Anal. Chem</i> . 2000; 72: 4640-4645.			
	116.	MA, et al. Single-molecule immunoassay and DNA diagnosis. <i>Electrophoresis</i> . 2001; 22(3): 421-426.			
	117.	NGUYEN, et al. Detection of single molecules of phycoerythrin in hydrodynamically focused flows by laser-induced fluorescence. <i>Anal Chem</i> . 1987; 59(17): 2158-2161.			
	118.	PEICK, et al. Single-molecule fluorescence detection: autocorrelation criterion and experimental realization with phycoerythrin. <i>Proc Natl Acad Sci USA</i> . 1989; 86(11): 4087-4091.			
	119.	SAUER, et al. Detection and identification of individual antigen molecules in human serum with pulsed semiconductor lasers. <i>Appl. Phys. B</i> . 1997; 65: 427-431.			
	120.	SHERA, et al. Detection of single fluorescent molecules. <i>Chemical Physics Letters</i> . 1990; 174(6): 553-557.			
	121.	SHORTREED, et al. High-throughput single-molecule DNA screening based on electrophoresis. <i>Anal Chem</i> . 2000; 72(13): 2879-2885.			
	122.	SIDRANSKY, D. Emerging molecular markers of cancer. <i>Nature Reviews: Cancer</i> . 2002; 2(3): 210-219.			

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	123.	SOPER, et al. Photoacoustic detection of single near-infrared fluorescent molecules. <i>Anal Chem.</i> 1993; 65(6): 740-747.
	124.	SOPER, et al. Single-molecule detection in the near-IR using continuoUS wave diode laser excitation with an avalanche photon detector. <i>Applied Spectroscopy.</i> 1998; 52(1): 1-6.
	125.	UPATNIEKS, et al. A kilohertz frame rate cinematographic PIV system for laboratory-scale turbulent and unsteady flows. <i>Experiments in Fluids.</i> 2002; 32: 87-98.
	126.	VAN DER OORDEN, et al. Single-molecule identification in flowing sample streams by fluorescence burst size and intraburst fluorescence decay rate. <i>Anal Chem.</i> 1998; 70(7): 1444-1451.
	127.	WABUYELE, et al. Single molecule detection of double-stranded DNA in poly(methylmethacrylate) and polycarbonate microfluidic devices. <i>Electrophoresis.</i> October 2001; 22(18): 3939-3948.
	128.	WILLNEFF, J. A spatio-temporal matching algorithm for 3D particle tracking velocimetry: a dissertation submitted to the Swiss Federal Institute of Technology Zurich for the degree of Doctor of Technical Sciences (abstract). September 2003. Diss. ETH No. 15276. Available at <a href="http://e-collection.ethbib.ethz.ch/ecoll-pool/diss/abstracts/pl15276.pdf">http://e-collection.ethbib.ethz.ch/ecoll-pool/diss/abstracts/pl15276.pdf</a> .
	129.	YEUNG, High-Throughput Single Molecule Screening of DNA and Proteins. <i>Chem Rec.</i> 2001; 1:123-129.
	130.	ZHU, et al. Fluorescence multiplexing with time-resolved and spectral discrimination using a near-IR detector. <i>Anal Chem.</i> 2003; 75(10): 2280-2291.

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